REMARKS

Claims 52-54 and 57 stand rejected as obvious in view of JP 72128 ("J-128").

Appellants respectfully request withdrawal of this rejection for the following reasons.

Claim 52 is directed to an oral brush. The oral brush includes, in pertinent part, a brush portion that includes at least one molded elastomeric element. Appellants have found that molding elastomeric bristles provides bristles that are gentle and that have surprisingly good wear resistance. Appellants have also found that it is important that the Shore A hardness of the molded elastomeric elements be less than 55. Neither of these features are taught or reasonably suggested by the art of record.

J-128 does not teach or suggest a molded elastomeric element. A person or ordinary skill in the art would understand that "molded" is a structural distinction since it is known to persons of ordinary skill in the art that molding yields a different *microstructure* than extruding, even though the extruded and molded parts may *look* similar from a *macroscopic* point of view.

J-128 discloses an oral cleaning implement employing filaments composed of an engineering elastomer. The engineering elastomer is a melt spinnable (i.e., extrudable) thermoplastic elastomer (see page 4, line 4 of the translation[1]). All of the elastomeric bristles disclosed in the '128 utility model are melt spun, or melt spun and drawn (i.e., stretched).

Applicants note that it is known to persons of ordinary skill in the art that extruded bristles generally have better mechanical properties when compared to molded bristles made of the same material due to differences in microstructure thought to arise from orientation imparted during extrusion. For example, ordinary nylon 612 toothbrush bristles (monofilaments) are extruded and drawn to improve their bend recovery properties and to improve their wear resistance as compared to nylon 612 bristles which are molded.

There is no motivating disclosure in J-128 that would have led one of ordinary skill in the art to mold an elastomeric element rather than melt spinning or melt spinning and drawing the elastomeric element. Instead, the disclosure of J-128, and the general knowledge available to those of ordinary skill in the art, would have led the artisan to believe that elastomeric elements

[1] Translation submitted with Appellants' IDS filed 2/13/2004.

should be formed by melt spinning or similar extrusion techniques. Persons of ordinary skill in the art would have understood that extrusion and drawing techniques such as those described in J-128 impart molecular orientation to the polymeric material that molding does not. A person of ordinary skill in the art would not have expected a molded elastomeric element to have the wear resistance or other physical characteristics needed for use in an oral brush.

It was the inventors who discovered that the reverse is true – that in the case of elastomeric elements molding provides better wear resistance and processability than extrusion.

During development of the toothbrushes described in the above-referenced application, Mr. Masterman and his co-inventors discovered that extrusion did not work well for forming elastomeric elements. Elastomeric elements formed by extrusion generally exhibited unsatisfactory wear resistance. Also, the soft materials used to form the elastomeric elements proved very difficult to successfully extrude and draw. Many elastomers have elongations at break of between 100 and 500 percent, and thus act like "rubber bands" when drawn. (Declaration of Craig Masterman, submitted herewith, paragraph 2.)[2]

The inventors themselves were surprised to find that molded elastomeric elements exhibited better wear resistance than the elastomeric elements that were formed by extrusion. This result was surprising because it ran counter to the general knowledge in the art that the wear resistance of conventional Nylon bristles would be unsatisfactory if the bristles were molded, and that extrusion and drawing should be used instead in order to obtain satisfactory properties. (Declaration of Craig Masterman, paragraph 3.)

Moreover, there is no recognition in J-128 that the elastomeric material should have a Shore A hardness of less than 55. As acknowledged by the Examiner, J-128 is silent in this regard. The Examiner asserts, however, that because J-128 discloses KRATON® polymers as an example, "it is not unreasonable to assume that an elastomer in this class of materials having the recited hardness exists under the trademark KRATON." The Examiner also asserts that it would have been obvious to the person of ordinary skill in the art to select a KRATON® polymer that would have an appropriate hardness in the recited range. Appellant respectfully submits that this

[2] An unsigned declaration is submitted herewith. An executed copy will follow under separate cover.

statement is based only on conjecture. There is simply no suggestion in the art, or in the general knowledge available to one of merely ordinary skill in the art, which would have led the artisan to select, from the over 150 grades of KRATON polymer available (see www.kraton.com) an elastomer having a hardness within the recited range.

For at least these reasons, Applicants respectfully request that the rejection of claim 52 and all dependent claims be withdrawn.

This response is being filed concurrently with an RCE and a petition for extension of time. Please apply the fee for extension of time, and any charges or credits, to deposit account 06-1050.

Respectfully submitted,

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